

Improvements in and relating to a user interface for a radiotelephone

Background of the Invention

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The present invention relates to a messaging interface for a communication device, particularly although not exclusively a radiotelephone handset.

10 The range of communication options available to users of radiotelephone handsets is continually expanding. At present, in addition to conventional voice communication, it is possible to send text messages and electronic mail (email). One example of a text messaging service is the short message service (SMS) available under the GSM system. Additional communication methods, which are being implemented presently or in the near future, will  
15 allow multimedia images and audio to be transmitted between handsets. Such information may be stored within the memory of a handset but is more likely to be held remotely of the telephone, perhaps in a server connected to the Internet.

20 The users of existing non-voice communication options are presently constrained to a either a rather functional interface having extremely limited delivery options or, where the handset is capable of interacting with the internet, a much more complex interface that can be bewildering to an inexperienced or a computer illiterate individual. Furthermore, the manner in  
25 which a short text message or email is displayed on the handset of a message recipient remains outside of the control of the sender. This limitation is not acceptable when considering the possibilities offered by multimedia sources now available.

30 Thus, the present invention is intended to provide an improved user interface which is not only intuitive to operate, but also provides the capability necessary to allow the user to express himself to his full extent when

compiling a message particularly a message involving a range of multimedia sources.

### Summary of the Invention

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According to one aspect of the invention, there is provided a communications device including a messaging user interface, the interface including means for selecting a component for inclusion in a message, means for selecting the conditions under which the message may be opened and means for storing  
10 said component as a message together with a message header holding the message delivery conditions in a memory of the communication device.

Preferably, the message header will contain data relating to a range of user  
15 defined conditions relating to the delivery of the message. The message header could be stored separately of or alternatively as part of the message. The data contained in the header could include the time, date, and even location of the message recipient's device. Where the recipient's device is equipped with the necessary interface, the user that is to say the sender of  
20 the message, could pre-set a similar equipped device on which the message will be opened e.g. a hi-fi for an audio component or a television monitor for a video component. In which case, the message may also usefully contain presentation information relating to a component of the message. This information might include parameters relating to the size, playback speed and  
25 positioning of a video image, for example.

According to a further aspect of the invention, there is provided a method of  
30 creating a message on a communications device, comprising selecting a component from a source and defining a set of conditions for delivery of the message.

According to a yet further aspect of the invention, there is provided a method of opening a message created in accordance with the above method, the method comprising receiving the message, storing the message in the communication device, analysing the delivery conditions and in the event that they are met opening the message.

In order to aid in understanding the invention, a specific embodiment thereof will now be described by way of example and with reference to the accompanying drawings, in which:

#### Brief Description of the Drawings

Figure 1 is a diagrammatic view of a communication network incorporating a communications device having a user interface in accordance with the invention;

Figure 2 is a view of a menu screen of the user interface of Figure 1;

Figure 3 is a view of a screen of a recipient of a multimedia message created by the user interface of Figure 1; and

Figure 4 is a view of a further screen of the recipient of the message created by user interface of Figure 1.

#### Detailed Description of the Invention

Referring to the Figure 1, there is shown a communications device such as a cellular radiotelephone 1 having a link 2 via a public land mobile network (PLMN) 3, to a public switched telephone network (PSTN) 4 and the Internet 5. The device 1 is provided with an LCD screen or display 6 made up of a plurality of lines. The display 6 is of sufficient resolution to permit text messages and images to be displayed thereon. The radiotelephone 1 further includes memory means and a processor. In addition to providing the usual functions of a mobile station within a PLMN 3, details of which are well known in the art, the memory means and processor provide a set of tools with which

messaging information, which may be as simple as a textual message or as complex as multimedia information, may be manipulated by a user and sent to a recipient for subsequent display.

- 5 The basic function of the display 6 is to provide a user with information concerning the status of the radiotelephone 1 and the PLMN 3 of which it forms an element. As is conventional, the user operates the radiotelephone by depressing one or more keys on a keypad 7 in a certain sequence. However, in a non-illustrated variant, the keys are replaced by a so-called
- 10 touch sensitive screen that permits a user to press lightly on an image generated on the screen that corresponds to a function of the telephone 1. In either case, the user input via the keypad 7 is interpreted by the processor and a corresponding function is carried out.
- 15 The radiotelephone 1 is provided with an advanced user interface based on a set of menus having a pre-defined hierarchical structure each of which can be selected by the user of the radiotelephone 1. Each menu contains a list of one or more options, which the user may browse using scroll key 8 and from which specific functions are selectable. The user interface permits the user to
- 20 request the performance of certain functions by the radiotelephone 1 which include, but are not limited to, accessing sources, including multimedia sources, from various locations within the a communications network comprising the PLMN 3, PSTN 4 and the Internet 5., in addition to the memory resource of the radiotelephone 1 itself.
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Figure 2 shows an example of a screen 10 which, when shown on the display 7, presents the user with a number of options relating to the creation of, in this example, a multimedia file. Thus, by previously having carrying out a sequence of key presses, the user, who for convenience is referred to as a sender, will have selected this menu from the hierarchical structure and is then able to browse the desired options from the set available on that menu. The interface allows a user both to enter information in the form of text and

also to compile information gathered from a number of locations, both within and without the radiotelephone 1, to produce a multimedia file. Thus, in use, the sender may firstly access a sound file held internally of the telephone 1 or perhaps externally on the Internet 5. The sound file is stored in the multimedia  
5 file. In the case of an Internet source file, the multimedia file may hold simply the URL address of the sound file. Similarly, the user may select a video image file from the Internet and store the URL address of that file in the multimedia file. Further components of the multimedia message file may be assembled either from internal telephone 1 resources such as a set of pre-  
10 stored images or external resources such as the Internet 5.

Once compiled or indeed during the compilation of the multimedia message, the user is given access through the interface to a set of tools which permit the sender to modify, if required, the presentation of the compiled information  
15 to a recipient. Thus, the sender is able to modify, for example, the volume of sounds, the speed of playback of video clips, and the position and sizes of images of a video file as they would appear on a display of a recipient's communications device. These parameters are stored in the multimedia message and associated with the component to which they relate. The  
20 multimedia message may then be archived, either sent as an enclosure to a separate message or, indeed, sent as message itself.

As a prerequisite to either sending the multimedia message as an attachment or separately, the sender is given the opportunity to select the recipient of the  
25 multimedia message either by directly entering a telephone number or by selecting an entry in a contact list maintained in the memory of the radiotelephone and accessed via the interface. The sender is further given the opportunity to set the conditions under which the multimedia message can be read by a recipient. Thus, the sender may specify the time, date and even  
30 location at which the message may be read. In addition, the sender may predetermine how much of the message may be available to the receiver depending on the capabilities of the receiver's communication device. With

respect to the conditions of time and date, these could allow the creation of a birthday greeting message, which would be opened only on the receiver's birthday.

- 5 A message could also be created which opened when the receiver's device reached a specific location. A location could be defined either in terms of a geographical position or perhaps by proximity to a particular type of device. In the former case, the sender could enter the specific location via a map retrieved from the network or held within the memory of his device. The
- 10 sender could then select a location from the map or alternatively directly enter co-ordinates. This location information could then be translated into a specific cell site, entry into that would cause the multimedia message to open. Alternatively, where the recipient's communication device has access to a GPS receiver, a comparison of the co-ordinates included with the multimedia
- 15 message could be made with those derived from the GPS receiver and the message opened at the appropriate location. In the second case, the recipient's device will be provided with a wireless network interface such as Bluetooth low power radio frequency network interface such that it could detect the presence, via a local network or piconet, of another similarly
- 20 equipped device which meets the criteria set by the sender for opening the message. For example, the sender could specify a wireless network interface equipped television monitor for display of a the message. On entering a room containing such a monitor, the receiver's device would detect the presence of the monitor and negotiate the display of the message with the monitor over
- 25 the wireless network.

- Referring now to Figures 3 and 4, these are illustrative of the screen displays presented to the receiver of a message compiled in accordance with the foregoing description. The receiver is initially presented with a message
- 30 header screen 11 (Figure 3) setting out details 12 of the message including warnings of any content which may alarm or otherwise disturb the recipient such as the presence of loud sounds and the like. The message header

might also list the requirements for reading the file. For example, the file may contain a video clip that may be displayed on a television. In which case both the television and the recipient's handset would require the necessary connectivity to facilitate the display of the clip. The header may also indicate whether the contents of the multimedia file are embargoed and until what date. Figure 4 shows a screen display 13 of the multimedia file corresponding to the header screen 11 once it has been opened by the recipient. It should be noted that in addition to text 14 and visual 15 components, there are links, represented by icons 16,17, to a video clip and an audio recording, respectively.